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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/283,198	04/01/1999	HEINRICH E FIEDLER		9644

7590

12/11/2002

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EXAMINER

SORKIN, DAVID L

ART UNIT

PAPER NUMBER

1723

DATE MAILED: 12/11/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/283,198

Applicant(s)

FIEDLER ET AL.

Examiner

David L. Sorkin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23 and 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 13.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Prosecution Application

1. The amendment filed 04 December 2000 has been entered.
 2. The amendment filed 31 January 2001 has been entered.
 3. The request to delete Heinrich E. Fiedler from the listed inventors is acknowledged. Applicant should understand that in requesting such a deletion that applicant is indicating that Heinrich E. Fiedler did not in fact contribute to the invention. If Heinrich E. Fiedler did contribute to the invention, applicant must withdraw this request to delete Mr. Fiedler. Applicant should understand that inventorship is different from ownership or assignment and can not be "given up" or transferred. An inventor may be dead or alive. In summary, applicant should confirm that Heinrich E. Fiedler did not contributed to the currently claimed invention, or withdraw the request to delete Mr. Fiedler.
-

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
5. Claims 23 and 24 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. While it unclear what is be claimed as discuss below, the original specification fails to enable one skilled in the art to create the

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claimed condition of "said shear layers having a specific receptivity to said narrow frequency range".

6. Claims 23 and 24 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. No support is found in the original specification for the new limitation "creating streamwise vortices ... through the interaction between corner vortices and said primary vortices".

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 23 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. In claim 23, the scope of "having a specific geometry for enhancing and producing corners flow in said mixing chamber" is unclear. It is unclear what is meant by "corners flow". No standard from determining if "corners flow" has been enhanced. It is generally unclear what scope of geometries is being required.

10. In claim 23, the scope of the relative term "narrow" is indefinite.

11. It is unclear what is meant by "said shear layers having a specific receptivity to said narrow frequency band" and it is unclear how to determine if this condition is satisfied.

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12. In claim 23, the scope of the term "enhanced streamwise vortices for enhanced mixing" is unclear, because no standard for determining if streamwise vortices or mixing has been enhanced is set forth.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Cottell et al. (US Re. 25,324). While it is quite unclear what is being claimed, to the extent understood all the manipulative steps of the claimed method are disclosed by Cottell et al. ('324). Regarding claim 23, Cottell et al. ('324) discloses a process for creating an instability mechanism for rapid and homogeneous mixing of one or more fluids comprising introducing one or more fluids into a mixing chamber (14) having a specific geometry for enhancing and producing corner flow in said mixing chamber for creating corner vortices (see Figs. 3-6), and having one or more inlets for receiving said fluids and at least one splitter plate (11) having a trailing edge and configured to create corners in said mixing chamber and to create a shear layer between said fluids (see Fig. 4); separating said fluids on entrance into said mixing chamber by said splitter plate creating primary vortices at said trailing edge of said splitter plate (see Fig. 3); forcing said shear layer between said fluids through the periodic application of a narrow frequency band said shear layers having a specific receptivity to said narrow frequency

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band, and independent of said fluids velocity into said mixing chamber (see col. 2, lines 20-23). While the claimed vortex patterns are explicitly discussed by the reference, as held in *In re King*, 231 USPQ 136 (Fed. Cir. 1986), if a prior art reference's device is consistent with that described in the specification of a patent application at issue and carries out the general method being claimed in normal use, mechanistic details of the claimed process can be properly inferred to be performed by the prior art. (See also MPEP 2112.02.) It is therefore considered that it is applicant's burden to show that the method of Cottell et al. ('324) would not inherently create the vortex pattern being recited in the claim. Regarding claim 24, the frequency band is generated by a forced membrane (11).

Response to Arguments

15. Applicant's arguments are moot in view of the new grounds of rejection.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Sorkin whose telephone number is 703-308-1121. The examiner can normally be reached on 8:00 -5:30 Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 703-308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are 703-

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872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

David Sorkin

December 6, 2002

A handwritten signature in cursive script, appearing to read "Charles Cooley".

CHARLES E. COOLEY
PRIMARY EXAMINER